

## **Determination of Public Land (Rangeland) Health for 65070 DON L MILES**

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the Don L Miles allotment #65070 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard will not be addressed.

/s/ T. R. KREAGER  
Assistant Field Manager

09/29/2004  
Date

## Standards of Public Land Health Evaluation of 65070 DON L MILES Allotment [ 09/10/2004 ]

The Roswell Field Office conducted rangeland health assessments at two (2) study sites within the Don L Miles Allotment #65070. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65070-BM205- C056 (*)	X			X			N/A		
65070-JC92- C055 (*)	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the public land on the Don L Miles allotment #65070. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on two locations were utilized to assess the rangeland health of the public land within the allotment. This allotment is in the "C" (custodial) category due to the small amount of public land present.

BM205 identifies the first site on this allotment. This site is a Loamy SD-3 ecological site with an acreage of 312 or approximately 142 hectares. The soil phase is a (HrC) Holloman-Gypsum Land complex on slopes 3 to 5 percent and occasionally steeper areas paralleling the east side of the Pecos River. This site also supports bottomland, sandy and gravelly soil with knolls, depressions and swales intermittent. No livestock are utilizing this allotment at the present time.

Inventory on this site was performed in 1979 with species of plants observed and production. No other monitoring data has been conducted. Creosote (*Larrea tridentata*) has proliferated and encroached significantly within the last 25 years. Invasive plants rated Moderate to Extreme as a result with creosote common and rapidly encroaching, especially on the upland areas where there is a gravelly and sandy influence existing. Prickly pear (*Opuntia* spp.) is also quite common. Indicators of concern on this site with a Moderate rating are water flow patterns, pedestals and terracettes, bareground, gullies and annual production. Water flow patterns show minor erosion and some instability and

sediment deposition towards the bottoms. An estimate of 50-60 percent bareground approaches the upper end of the range expected. Slight active pedestaling is occurring especially on tobosa (*Pleuraphis mutica*) and gyp grama (*Bouteloua breviseta*) in the flow paths on the exposed north-facing slope. Although rills are prevented by the biological crusts, the terracette formation on the steeper areas leading to the site and surrounding vicinity is quite evident. The natural erosional processes account for this occurrence and is normal for this site. Gullying is occurring with some active headcuts at the areas adjacent to the road. Vegetation, however is stabilizing most slopes with grasses reducing some of the sediment loss. Annual production is approximately 1/2 of the expected with variability between the upland and bottomland. The grama grass component is onsite with gyp grama and black grama (*Bouteloua eriopoda*) on the gyp and loamy soil respectively. All other indicators rated in the None to Slight to Slight to Moderate range with normal to expected degrees of variability.

JC92 identifies the loamy ecological site in section 8. This site encompasses 88 acres/40 hectares. The soil phase is a (TS)-Tencee-Sotim association occurring on uplands east of the Pecos River with 0-9% slopes. Elevation is 3,600 feet or 1091 meters. This gently rolling site has been monitored one time in 1977. Production data and species observed was recorded. This site is also experiencing brush encroachment as the invasive plants indicator rates Moderate to Extreme for creosote which is common and potentially could dominate this area. Litter amount rates Moderate as there is only a small amount. Maybe 10-15% in some spots. Most of the production observed has been produced during this last year due to the favorable rainfall events in 2004. At present the litter will be more plentiful the next dormant season and will attribute to a generous mulch layer the following year. Annual production is currently estimated at 600-700 lbs/ac or kg/ha. This is approximately 2/3 of the ESD and matches that for 1977. Black grama, threeawn (*Aristida* spp.), burrograss (*Scleropogon brevifolius*), tobosa, dropseed (*Sporobolus* spp.) and bush muhly (*Muhlenbergia porteri*) are the principal grasses onsite with patches of vine mesquite (*Panicum obtusum*) dominating the depressional areas. The structural/functional groups rates Slight to Moderate along with annual production. The surrounding gyp areas do have biological crusts however along with an adequate physical crust at the immediate vicinity of the site. All other indicators rate either Slight to Moderate to None to Slight with minor deviations and falling well within the normal range of variability.

Hydrology - Pasture BM205 - The bare ground indicator rated as moderate. The amount of bareground has possibly increased due to recent dry conditions and also wind and water erosion processes. The gullies indicator rated moderate with active erosion and gully formation taking place. The formation of gullies has occurred in certain areas because vegetation is sparse and intermittent on slopes. The lack of vegetation has decreased infiltration and increased runoff. All other indicators rated as none to slight or slight to moderate. Gypsum, dolomite, and siltstone of the Yates Formation and also gypsum, mudstone and dolomite of the Seven Rivers Formation outcrop in the area.

Pasture JC92 - The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing

conditions which decreases the amount of litter that is produced. All other indicators rated as none to slight or slight to moderate. Gypsum, mudstone and dolomite of the Seven Rivers Formation outcrop in the area.

Wildlife/biotic - Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several others, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as annual production and invasive plants, as discussed above. Specifically, only two biotic indicators exhibited significant departure, litter amount at Moderate and invasive plants Moderate to Extreme.

In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. With respect to special status species, none are known to occur in the area of interest at this time and rate None to Slight. The habitat and population indicators are, therefore rated None to Slight with only slight departures.

It is the professional opinion of the Assessment Team that the public land within the Don L Miles allotment meets the Upland and Biotic standards. Further monitoring of brush encroachment may be warranted; also future vegetation treatment for creosote control may improve the potential of those areas within the allotment. See site notes and recommendations for additional information regarding the ecological sites on this allotment.

The (\*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

**Recommendations:** Creosote (*Larrea tridentata*) treatment is warranted for this allotment. The potential for this allelopathic plant to dominate is of concern. A more rigorous schedule of monitoring is recommended to foresee the trend of brush encroachment and its effect on forage production.

**RFOs Upland and Biotic Standard Assessment Summary Worksheet**

**SITE 65070-BM205-C056**

Legal Land Desc	NWSW 7 0130S 0270E Meridian 23	Acreage	312
Ecosite	042CY007NM LOAMY SD-3	Photo Taken	Y
Watershed	13060007040 DEXTER EAST		
Observers	NAVARRO/MCGEE	Observation Date	09/10/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	HSE	Soil Taxon Name	HOLLOMAN
Texture Class	NM666 L	Soil Phase	HOLLOMAN- GYPSUM LAND
Texture Modifier	NM666 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.16	NOAA Growing Season Precipitation	7.41
NOAA Avg Annual Precipitation	11.33	NOAA Avg Growing Season Precipitation	9.05
Disturbances and Animal Use:	No livestock presently, but the natural erosional processes are continuing.		

**Part 2. Attributes and Indicators**

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments :	Biological crusts are preventing rill formation on the slopes as well.					
S H	Water Flow Patterns				X	
Comments :						

S H	Pedestals and/or Terracettes				X	
Comments :	Pedestaling on tobosa, creosote and gyp grama.					
S H	Bare Ground			X		
Comments :	Now estimates at 50-60%.					
S H	Gullies			X		
Comments :	This is soil based-gyp and sandy inclusions on the loamy areas do exhibit gullying.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments :						
H	Litter Movement				X	
Comments :	Some displacement.					
S H B	Soil Surface Resistance to Erosion				X	
Comments :	Both loamy and gyp soil dominates.					
S H B	Soil Surface Loss or Degradation				X	
Comments :	Some horizon loss has occurred.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments :						
S H B	Compaction Layer					X
Comments :						
B	Functional/Structural Groups				X	
Comments :	Some deviations.					
B	Plant Mortality/Decadence					X
Comments :						

H B	Litter Amount				X	
Comments :	Fall within range.					
B	Annual Production			X		
Comments :	Approximately 1/2 of the ESD exists. Whatever is observed is what has grown this last year.					
B	Invasive Plants		X			
Comments :	Creosote and opuntia are common and encroaching.					
B	Reproductive Capability of Perennial Plants					X
Comments :						
S	Physical/Chemical/Biological Crusts				X	
Comments :	Physical and biological crusts with some breaks in continuity.					
B	Wildlife Habitat				X	
Comments :						
B	Wildlife Populations				X	
Comments :						
B	Special Status Species Habitat					X
Comments :	None known to occur.					
B	Special Status Species Populations					X
Comments :						
<b>Part 3. Summary</b>						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to	Moderate	Slight to Moderate	None to

			Extreme		e	Slight
S	Soil	0	0	2	6	2
H	Hydrologic	0	0	2	7	2
B	Biotic	0	1	1	6	5

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	2	8
Hydrologic		0	2	9
Biotic		1	1	11

Site Notes: Non-permanent location was gps'd. This site is classified as a loamy with gyp inclusions, sandy areas surrounding with mesquite seen but in minor amounts. Christmas cholla is evident in smaller amounts with prickly pear and senecio abundant. Also there is a bottomland area at the access where sacaton and other dropseed grasses and tobosa are dominating. Gravelly areas are included as evidenced by the abundance of creosote. An interface at the junction between sandy and loamy areas does exist as evidenced by the break in vegetation.

**RFOs Upland and Biotic Standard Assessment Summary Worksheet**

**SITE 65070-JC92-C055**

Legal Land Desc	NWNW 8 0130S 0270E Meridian 23	Acreage	88
Ecosite	042CY007NM LOAMY SD-3	Photo Taken	Y
Watershed	13060007040 DEXTER EAST		
Observers	NAVARRO/MCGEE	Observation Date	09/21/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	TS	Soil Taxon Name	TENCEE
Texture Class	NM666 FSL	Soil Phase	TENCEE- SOTIM
Texture Modifier	NM666 GRAVELLY FINE SAND		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	10.16	NOAA Growing Season Precipitation	7.41
NOAA Avg Annual Precipitation	11.33	NOAA Avg Growing Season Precipitation	9.05
Disturbances and Animal Use:	There are no livestock currently using this allotment.		

**Part 2. Attributes and Indicators**

Attribute	Indicators	Departure from Ecological Site Description/Ecological Reference Areas				
		Extrem e	Moderat e to Extreme	Moderat e	Slight to Moderat e	None to Slight
S H	Rills					X
Comments :						
S H	Water Flow Patterns				X	
Comments :						
S H	Pedestals and/or Terracettes				X	

Comments :	Some pedestaling on black grama.					
S H	Bare Ground				X	
Comments :	Estimates at 30-40%.					
S H	Gullies					X
Comments :						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments :						
H	Litter Movement				X	
Comments :						
S H B	Soil Surface Resistance to Erosion				X	
Comments :	Very little melting on canopy and interspace samples.					
S H B	Soil Surface Loss or Degradation				X	
Comments :	Some pebbles and gravel at the surface.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments :						
S H B	Compaction Layer					X
Comments :						
B	Functional/Structural Groups				X	
Comments :	Most of the plants and groupings are intact.					
B	Plant Mortality/Decadence					X
Comments :						
H B	Litter Amount			X		

Comments :	Very minor amounts of litter. This is mostly due to the drought which has limited the growth.					
B	Annual Production				X	
Comments :	600-700 lbs/ac or kg/ha is the estimate.					
B	Invasive Plants		X			
Comments :	Creosote is common and encroaching.					
B	Reproductive Capability of Perennial Plants					X
Comments :						
S	Physical/Chemical/Biological Crusts				X	
Comments :	Surrounding areas do have biological crusts.					
B	Wildlife Habitat				X	
Comments :						
B	Wildlife Populations				X	
Comments :						
B	Special Status Species Habitat					X
Comments :	None known to occur.					
B	Special Status Species Populations					X
Comments :	None known to occur.					
<b>Part 3. Summary</b>						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight

S	Soil	0	0	0	7	3
H	Hydrologic	0	0	1	7	3
B	Biotic	0	1	1	6	5

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	1	10
Biotic		1	1	11

Site Notes: Non-permanent location was located and gps'd. Topographical map indicates this site is approximately 2000 ft/600 m southwest of the base water windmill for this allotment. Tobosa, burrograss, black grama, condalia, yucca and creosote are found here. This upland loamy site is gradually being encroached by creosote but not to the extent of limiting forage production as of yet.

65070 – Site BM204-C056



65070 – Site JC92-C055



65070 – Site JC92-C055





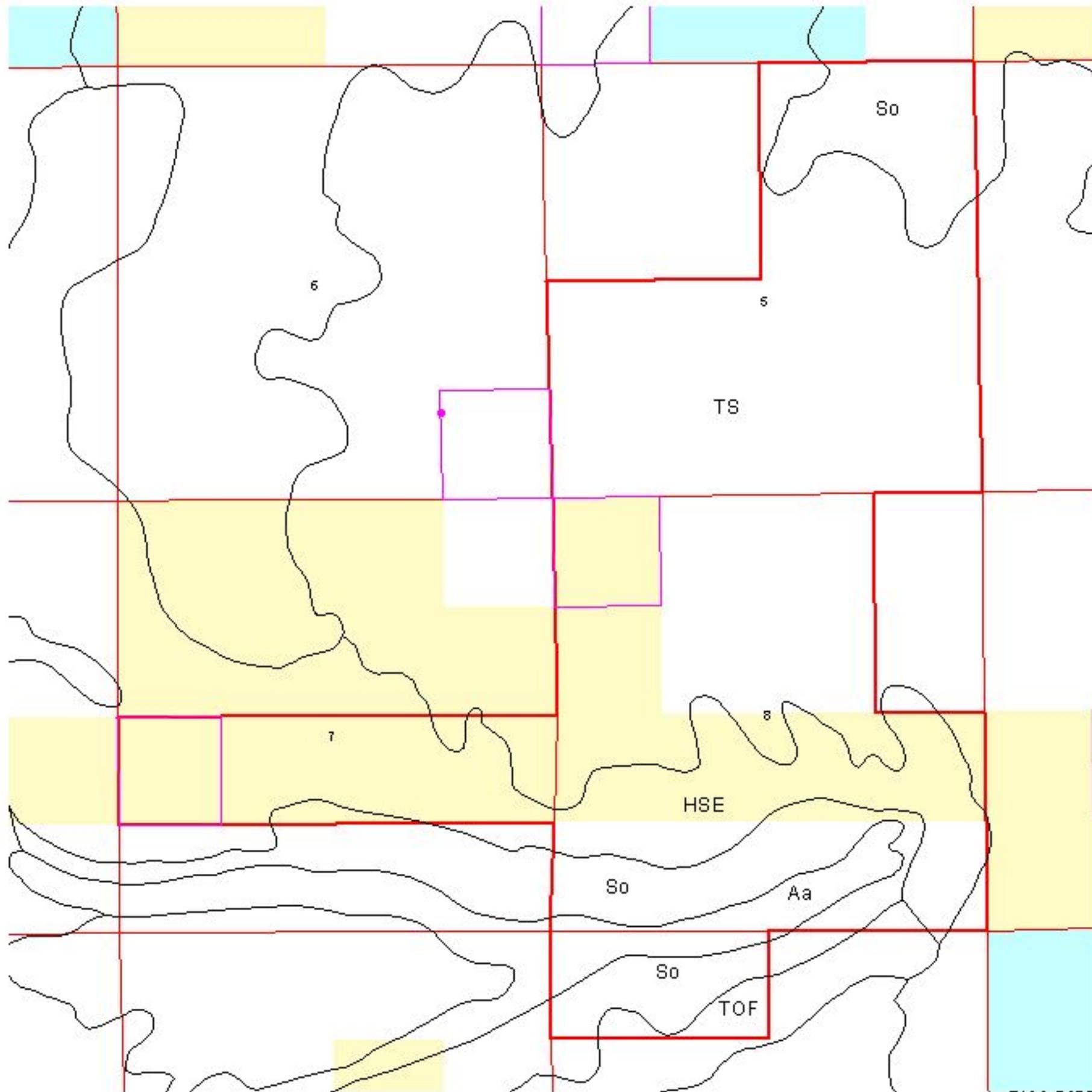


# Rangeland Health Assessment Soil Mapping Units



Allotment 65070

T12S.R26E



0.3 0 0.3 Miles

T13S.R27E



Public



Study Plots



State



Private



Study Locations



Soil Mapping Boundary



Allotment Boundary

Produced by the Roswell Field Office  
GIS Intern on July 9, 2003.

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